

BT CCL

Typical Example

CCL-HL832		CCL-HL832HS				
Tg (DMA)	deg. C	210	Type HS	Type LS	Type LT	Type VT
Thermal Expansion	ppm/deg. C	15,15,55	15,15,45	15,15,45	14,14,35	14,14,35
Dk at 1GHz	-	4.2	4.4	4.4	4.4	4.4
Df at 1GHz	-	0.0120	0.0100	0.0100	0.000	0.0100
Flexural Modules	kgf/mm ²	2200-2400	2500-2600	2500-2600	2500-2600	2500-2600
Thermal Conductivity	kcal/m.hr.deg. C	0.29	0.44	0.44	0.44	0.44

CCL-HL832TF		CCL-HL832MG			CCL-HL832NB		CRS-501	
Tg (DMA)	deg. C	210	205	205	220	220		
Thermal Expansion	ppm/deg. C	15,15,45	15,15,50	15,15,35	14,14,45	45,45,45		
Dk at 1GHz	-	4.3	4.0	3.9	4.4	3.8		
Df at 1GHz	-	0.0120	0.0080	0.0050	0.0130	0.0160		
Flexural Modules	kgf/mm ²	2200-2400	2200-2500	2200-2500	2300-2400	300		
Thermal Conductivity	kcal/m.hr.deg. C	0.44	0.29	0.44	0.44	0.20		

MITSUBISHI GAS CHEMICAL COMPANY, INC.



TAIYO AMERICA, INC.

"Producing Superior Products Creates New Demand"

TAIYO PSR-4000 (AUS5)

LIQUID PHOTOIMAGEABLE SOLDER MASK FOR BGA APPLICATIONS PROCESS GUIDE

TAIYO PSR-4000 (AUS5) is a two-part epoxy liquid photoimageable solder mask specifically designed for Ball Grid Array (BGA) applications. It has excellent moisture resistance properties and can withstand pressure cooker type testing. PSR-4000 (AUS5) can be applied by screen printing or spray application and can be developed in a 1% aqueous alkaline solution. PSR-4000 (AUS5) exhibits minimum undercut and is also resistant to electroless nickel/gold.

CARACTERISTICS

Item	PSR-4000 (AUS5)	PSR-4000 (AUS3)
Color	Green	Green
Solid content	70-80 wt%	70-80 wt%
Viscosity	220 cP@25	150 cP@25
Exposure	24 hours (after mix)	24 hours (after mix)
Post cure	6 months after production (3 months for AUS303)	6 months after production (3 months for AUS303)
Exposure	400-600 mJ/cm ² (on solder mask)	350-450 mJ/cm ² (on solder mask)
Development	60-90 sec/100% NaOH 30°C	50-120 sec/100% NaOH 30°C
Post cure	60 min. (hot air convection oven, 150°C)	60 min. (hot air convection oven, 150°C)
Post UV cure	100 mJ/cm ² (high pressure mercury lamp)	100 mJ/cm ² (high pressure mercury lamp)
Penetration	24H	24H
Adhesion	100/100	100/100
Solder mask resistance	3 cycles	3 cycles
Electroless nickel/gold	Passes 0.5um Au 1um Ni	Passes 0.5um Au 1um Ni
Moisture resistance	2.1x10 ⁻⁹	2.1x10 ⁻⁹
Insulation resistance	Initial: 2.1x10 ¹⁰ Conditioned: 1.0x10 ¹⁰	Initial: 3.8x10 ¹⁰ Conditioned: 3.8x10 ¹⁰
FTIR	Passes	Passes
Thermal stability	Initial: 2.1x10 ⁻⁹ Conditioned: 2.1x10 ⁻⁹	Initial: 2.1x10 ⁻⁹ Conditioned: 2.1x10 ⁻⁹
CTE	a1: 50 ppm a2: 150 ppm	a1: 57 ppm a2: 158 ppm
Tg	104°C	113°C
Elastic modulus	3.5 GPa	2.8 GPa
Elongation	1.70%	2.00%
Tensile strength	31 MPa	44 MPa
Flammability	UL94V-0	UL94V-0

BEST AVAILABLE COPY